



# *COMMONWEALTH of VIRGINIA*

## *DEPARTMENT OF ENVIRONMENTAL QUALITY*

### TIDEWATER REGIONAL OFFICE

5636 Southern Boulevard, Virginia Beach, Virginia 23462

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Douglas W. Domenech  
Secretary of Natural Resources

David K. Paylor  
Director

Francis L. Daniel  
Regional Director

**STATE AIR POLLUTION CONTROL BOARD  
ENFORCEMENT ACTION - ORDER BY CONSENT  
ISSUED TO  
SOUTHEASTERN PUBLIC SERVICE AUTHORITY OF VIRGINIA  
AND  
WHEELABRATOR PORTSMOUTH INC.  
FOR  
Wheelabrator Portsmouth Municipal Waste Combustion Facility  
Formerly  
Southeastern Public Service Authority Of Virginia  
Registration No. 61018**

### **SECTION A: Purpose**

This is a Consent Order issued under the authority of Va. Code §§ 10.1-1309 and -1316, between the State Air Pollution Control Board, the Southeastern Public Service Authority of Virginia, and Wheelabrator Portsmouth Inc. regarding the Wheelabrator Municipal Waste Combustion facility located in Portsmouth, Va., for the purpose of resolving certain violations of the Virginia Air Pollution Control Law and the applicable permits and regulations.

### **SECTION B: Definitions**

Unless the context clearly indicates otherwise, the following words and terms have the meaning assigned to them below:

1. "Board" means the State Air Pollution Control Board, a permanent citizens' board of the Commonwealth of Virginia, as described in Va. Code §§ 10.1-1184 and -1301.

2. "Department" or "DEQ" means the Department of Environmental Quality, an agency of the Commonwealth of Virginia, as described in Va. Code § 10.1-1183.
3. "Director" means the Director of the Department of Environmental Quality, as described in Va. Code § 10.1-1185.
4. "Facility" means the Municipal Waste Combustion facility, located at 3809 Elm Avenue, Portsmouth, Virginia.
5. "Notice of Violation" or "NOV" means a type of Notice of Alleged Violation under Va. Code § 10.1-1309.
6. "Order" means this document, also known as a "Consent Order" or "Order by Consent," a type of Special Order under the Virginia Air Pollution Control Law.
7. "Permit" means the new source review Prevention of Significant Deterioration stationary source permit to construct and operate a municipal waste combustion facility, which was issued under the Virginia Air Pollution Control Law and the Regulations to the Southeastern Public Service Authority on August 20, 2003.
8. "Regulations" or "Regulations for the Control and Abatement of Air Pollution" mean 9 VAC 5 chapters 10 through 80.
9. "SEP" means Supplemental Environmental Project, an environmentally beneficial project undertaken as a partial settlement of a civil enforcement action and not otherwise required by law.
10. "SPSA" means "Southeastern Public Service Authority of Virginia", a public body politic and corporate in the Commonwealth of Virginia, authorized to do business in Virginia, constituted by six cities and two counties, and its affiliates, partners, subsidiaries, and parents. SPSA is a "person" within the meaning of Va. Code § 10.1-1300.
11. "TRO" means the Tidewater Regional Office of DEQ, located in Virginia Beach, Virginia.
12. "Va. Code" means the Code of Virginia (1950), as amended.
13. "VAC" means the Virginia Administrative Code.
14. "Virginia Air Pollution Control Law" means Chapter 13 (§ 10.1-1300 *et seq.*) of Title 10.1 of the Va. Code.
15. "Wheelabrator" means Wheelabrator Portsmouth Inc. a corporation authorized to do business in Virginia and its affiliates, partners, subsidiaries, and parents. Wheelabrator is a "person" within the meaning of Va. Code § 10.1-1300.

**SECTION C: Findings of Fact and Conclusions of Law**

1. SPSA owned and operated the Municipal Waste Combustion facility located at 3809 Elm Avenue, Portsmouth, Virginia through April 29, 2010 at which time SPSA sold the Facility to Wheelabrator. The Facility uses municipal refuse derived fuel ("RDF") to generate steam and electricity.
2. The Facility is the subject of the Permit which allowed SPSA to construct and operate the Municipal Waste Combustion Facility.
3. The Facility is subject to, among other limits, emissions limits in the Regulations for visible emissions ("VE") as opacity, sulfur dioxide ("SO<sub>2</sub>"), and carbon monoxide ("CO"), under 9 VAC 5-40-8060, 9 VAC 5-40-8140D, and 9 VAC 5-40-8150C, respectively.
4. DEQ staff conducted multiple Partial Compliance Evaluations of quarterly Excess Emission Reports ("EERs") for the Facility submitted by SPSA since 2005 of the Facility record for compliance with the requirements of the Virginia Air Pollution Control Law, the Permit, and the Regulations. Based on these Evaluations, certain inspections and review of follow-up information provided by SPSA, Department staff observed that Permit limit exceedances of the 24-hour average carbon monoxide ("CO") emissions of 200 parts per million by volume ("ppmv") @ 7% O<sub>2</sub> were exceeded during the following calendar quarters while combusting RDF: 2<sup>nd</sup> and 3<sup>rd</sup> quarters 2005, 2<sup>nd</sup> and 3<sup>rd</sup> quarters 2006, and 1<sup>st</sup> and 4<sup>th</sup> quarters 2008.
5. The Permit, Condition 27, requires that CO emissions from the operation of each boiler (#1-4) while combusting RDF shall not exceed 200 ppmv @ 7% O<sub>2</sub>.
6. Va. Code §10.1-1322 (A) gives the Department the authority to issue, amend, revoke or terminate and reissue permits, and failure to comply with any condition of a permit is considered a violation of the Air Pollution Control Law.
7. On April 23, 2009, based upon the inspections and follow-up information, the DEQ issued a NOV to SPSA for the violations described in Section C.3 and C.4 of this Order.
8. On May 5, 2009, June 5, 2009, and September 1, 2009, SPSA submitted written responses to the NOV. In the responses, SPSA listed corrective actions taken to return to compliance with Permit CO emission limits.
9. Additional information contained in the EERs referenced above in C.3 indicated exceedances of sulfur dioxide ("SO<sub>2</sub>") in 1st quarter 2009, 2<sup>nd</sup> quarter 2008, and 4<sup>th</sup> quarter 2008, and visible emissions ("VE") in all quarters listed. Subsequent EERs indicate additional exceedances of CO and VE in all quarters of 2009 and 1<sup>st</sup> quarter 2010.
10. The Permit, Condition 27, requires that SO<sub>2</sub> emissions from the operation of each boiler (#1-4) while combusting RDF shall not exceed 29 ppmv @ 7% O<sub>2</sub>.

11. The Permit, Condition 34, requires that VE from each boiler (#1-4) shall not exceed 10% opacity except during one six-minute period in any one hour in which VE shall not exceed 20% opacity as determined by EPA Method 9 (reference Code of Federal Regulations Title 40, Part 60, Appendix A).
12. Based on the results of the inspections, meetings and documentation submitted throughout the previous five years, the Board concludes that SPSA has violated Va. Code §10.1-1322 (A) and Permit Condition 27, Permit Condition 34, as described in paragraphs C.3 through C.10 above.
13. SPSA maintains that it has worked diligently to achieve compliance with all applicable permit requirements, including the Federal Title V Operating Permit issued to SPSA on February 4, 2008, which was re-opened with a subsequent issued date of July 20, 2009.
14. On March 17, 2010, prior to the planned purchase of the Facility by Wheelabrator, Wheelabrator met with DEQ to discuss the SPSA CO NOV and present a draft, preliminary CO control plan designed to return the Facility to compliance with the CO limit after the sale of the Facility has been completed.
15. Wheelabrator purchased the Facility, effective April 29, 2010 at Midnight, from SPSA. The purchase included responsibility by Wheelabrator for compliance with the Permit beginning Midnight April 29, 2010.
16. On April 22, 2010, Wheelabrator submitted to DEQ a written preliminary "CO Control Plan" to return the Facility to compliance with the Permit limits for CO. This preliminary CO Control Plan was revised to become the "Final CO Control Plan" (Appendix B of this Order). The Final CO Control Plan includes review and upgrades to Facility instrumentation, controls, and improvement to all boilers (#1-4) to control CO below Permit limits.
17. On May 11, 2010, Wheelabrator met with DEQ and submitted a preliminary schedule to the CO Control Plan. This schedule, the Final CO Control Plan, began May 2010 and is scheduled for completion by December 31, 2011.
18. On July 22, 2010, Wheelabrator reported by email that "Task 1" had been completed in accordance with the Final CO Control Plan incorporated in Appendix B of this Order, having already begun improvements to achieve compliance with the CO limit.
19. In order for Wheelabrator to return the Facility to compliance, DEQ staff and representatives of Wheelabrator have agreed to the Compliance Plan and Schedule, incorporated as Appendix A of this Order, and the Final CO Control Plan, incorporated as Appendix B of this Order.

#### **SECTION D: Agreement and Order**

By virtue of the authority granted it pursuant to Va. Code §§ 10.1-1309 and -1316, and upon consideration of Va. Code § 10.1-1186.2, the Board orders the Wheelabrator, and Wheelabrator agrees to:

1. Perform the actions described in Appendix A and Appendix B of this Order.

By virtue of the authority granted pursuant to Va. Code §§ 10.1-1309 and -1316, and upon consideration of Va. Code § 10.1-1186.2, the Board orders, and SPSA and Wheelabrator agree to:

2. Perform the actions described in Appendix C of this Order.
3. To a civil charge of \$60,620 in settlement of the violations cited in this Order, to be paid as follows:
  - a. SPSA and Wheelabrator shall pay \$15,155 of the civil charge within 30 days of the effective date of this Order. Payment shall be made by check, certified check, money order or cashier's check payable to the "Treasurer of Virginia," delivered to :

Receipts Control  
Department of Environmental Quality  
Post Office Box 1104  
Richmond, Virginia 23218

The SPSA Federal Employer Identification Number (FEIN) [54-1087433] and Wheelabrator Federal Employer Identification Number (FEIN) [27-1446081] shall be included with the civil charge payment and shall indicate that the payment is being made in accordance with the requirements of this Order for deposit into the Virginia Environmental Emergency Response Fund ("VEERF").

- b. SPSA and Wheelabrator shall satisfy \$45,465 of the civil charge by satisfactorily completing the SEP described in Appendix C of this Order.
- c. The net project cost of the SEP to SPSA and Wheelabrator shall not be less than the total amount set forth in Paragraph D.3.b of this Order. If it is, SPSA and/or Wheelabrator shall pay the remaining amount in accordance with Paragraph D.3.a.
- d. "Net project costs" means the net present after-tax cost of the SEP, including tax savings, grants, and first-year cost reductions and other efficiencies realized by virtue of project implementation. If the proposed SEP is for a project for which the party will receive an identifiable tax savings (e.g., tax credits for pollution control or recycling equipment), grants, or first-year operation cost reductions or other efficiencies, the net project cost shall be reduced by those amounts. The costs of

those portions of SEPs that are funded by state or federal low-interest loans, contracts, or grants shall be deducted.

- e. By signing this Order SPSA and Wheelabrator certify that they have not commenced performance of the SEP.
- f. SPSA and Wheelabrator acknowledge that they are solely responsible for completing the SEP project. Any transfer of funds, tasks, or otherwise by SPSA and Wheelabrator to a third party, shall not relieve SPSA and Wheelabrator of its responsibility to complete the SEP as described in this Order.
- g. In the event SPSA and/or Wheelabrator publicize the SEP or the SEP results, SPSA and Wheelabrator shall state in a prominent manner that the project is part of a settlement of an enforcement action.
- h. The Department has the sole discretion to:
  - i. Authorize any alternate, equivalent SEP proposed by SPSA and Wheelabrator; and
  - ii. Determine whether the SEP, or alternate SEP, has been completed in a satisfactory manner.
- i. Should the Department determine that SPSA and Wheelabrator have not completed the SEP, or alternate SEP in a satisfactory manner, the Department shall notify SPSA and Wheelabrator in writing. Within 30 days of being notified, SPSA and Wheelabrator shall pay the amount specified in Paragraph D.3.b of this Order, as provided in Paragraph D.3.a of this Order.

#### **SECTION E: Administrative Provisions**

- 1. The Board may modify, rewrite, or amend this Order with the consent of SPSA and Wheelabrator for good cause shown by SPSA and Wheelabrator, or on its own motion pursuant to the Administrative Process Act, Va. Code § 2.2-4000 *et seq.*, after notice and opportunity to be heard.
- 2. This Order addresses and resolves only those violations specifically identified in Section C of this Order. This Order shall not preclude the Board or the Director from taking any action authorized by law, including but not limited to: (1) taking any action authorized by law regarding any additional, subsequent, or subsequently discovered violations; (2) seeking subsequent remediation of the facility; or (3) taking subsequent action to enforce the Order.
- 3. For purposes of this Order and subsequent actions with respect to this Order only, SPSA and Wheelabrator admit to the jurisdictional allegations, and agree not to contest, but do not admit, the findings of fact, and conclusions of law in this Order.

4. SPSA and Wheelabrator consent to venue in the Circuit Court of the City of Richmond for any civil action taken to enforce the terms of this Order.
5. SPSA and Wheelabrator each declares it has received fair and due process under the Administrative Process Act and the Virginia Air Pollution Control Law and it waives the right to any hearing or other administrative proceeding authorized or required by law or regulation, and to any judicial review of any issue of fact or law contained herein. Nothing herein shall be construed as a waiver of the right to any administrative proceeding for, or to judicial review of, any action taken by the Board to modify, rewrite, amend, or enforce this Order.
6. Failure by SPSA and Wheelabrator to comply with any of the terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board or the Director as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority. SPSA and Wheelabrator do not waive any rights or objections either may have in any enforcement action by other federal, state, or local authorities arising out of the same or similar facts to those recited in this Order.
7. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.
8. SPSA and Wheelabrator each shall be responsible for failure to comply with any of the applicable terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or such other occurrence. SPSA or Wheelabrator, as the case may be, shall show that such circumstances were beyond its control and not due to a lack of good faith or diligence on its part. SPSA or Wheelabrator, as the case may be, shall notify the DEQ Regional Director verbally within 24 hours and in writing within three business days when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any applicable requirement of the Order. Such notice shall set forth:
  - a. the reasons for the delay or noncompliance;
  - b. the projected duration of any such delay or noncompliance;
  - c. the measures taken and to be taken to prevent or minimize such delay or noncompliance; and
  - d. the timetable by which such measures will be implemented and the date full compliance will be achieved.

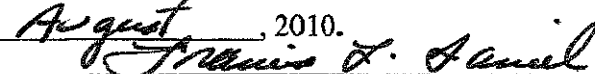
Failure to so notify the Regional Director verbally within 24 hours and in writing within three business days, of learning of any condition above, which SPSA and/or

Wheelabrator intends to assert will result in the impossibility of compliance, shall constitute a waiver of any claim to inability to comply with a requirement of this Order.

9. This Order is binding on the parties hereto, their successors in interest, designees and assigns, jointly and severally.
10. This Order shall become effective upon execution by both the Director or his designee and SPSA and Wheelabrator. Nevertheless, SPSA and Wheelabrator agree to be bound by any compliance date which precedes the effective date of this Order.
11. This Order shall continue in effect until:
  - a. SPSA and/or Wheelabrator petitions the Director or his designee to terminate the Order after it has completed all of the requirements of the Order and the Director or his designee approves the termination of the Order; or
  - b. the Director or Board terminates the Order in his or its sole discretion upon 30 days' written notice to SPSA and Wheelabrator.

Termination of this Order, or any obligation imposed in this Order, shall not operate to relieve SPSA and Wheelabrator from their respective obligations to comply with any statute, regulation, permit condition, other order, certificate, certification, standard, or requirement otherwise applicable.

12. Any plans, reports, schedules or specifications attached hereto or submitted by SPSA or Wheelabrator and approved by the Department pursuant to this Order are incorporated into this Order. Any non-compliance with such approved documents shall be considered a violation of this Order.
13. The undersigned representatives of SPSA and Wheelabrator certify that he or she is a responsible official authorized to enter into the terms and conditions of this Order and to execute and legally bind SPSA and Wheelabrator to this document. Any documents to be submitted pursuant to this Order shall also be submitted by responsible officials of SPSA and Wheelabrator.
14. This Order constitutes the entire agreement and understanding of the parties concerning settlement of the violations identified in Section C of this Order, and there are no representations, warranties, covenants, terms or conditions agreed upon between the parties other than those expressed in this Order.
15. By the signatures below, SPSA and Wheelabrator voluntarily agree to the issuance of this Order.

And it is so ORDERED this 25<sup>th</sup> day of August, 2010.  
  
Francis L. Daniel, Regional Director  
Department of Environmental Quality



Southeastern Public Service Authority voluntarily agrees to the issuance of this Order.

Date: 8-24-10 By: [Signature] **Executive Director**  
(Person) (Title)

Southeastern Public Service Authority of Virginia

Commonwealth of Virginia

City/County of CHESAPEAKE

The foregoing document was signed and acknowledged before me this 24 day of

AUGUST, 2010, by ROWLAND L TAYLOR who is

EXECUTIVE DIRECTOR of Southeastern Public Service Authority of Virginia, on  
behalf of the authority.

[Signature]  
Notary Public  
7161839

Registration No.

My commission expires: 3/31/2012

Notary seal:

Wheelabrator Portsmouth Inc. voluntarily agrees to the issuance of this Order.

Date: 8-23-10 By: William B. Roberts Vice President-Operations  
(Person) (Title)

State of New Hampshire Wheelabrator Portsmouth Inc.  
Commonwealth of Virginia

City/County of Rockingham

The foregoing document was signed and acknowledged before me this 23rd day of

August, 2010, by William B. Roberts who is

Vice President of Wheelabrator Portsmouth Inc., on behalf of the  
corporation.

[Signature]  
Notary Public

Registration No.

My commission expires: August 13, 2013

Notary seal:

## **APPENDIX A COMPLIANCE PLAN AND SCHEDULE**

### **1. Compliance Plan and Schedule**

- a) The DEQ and Wheelabrator acknowledge that, until the Facility "Compliance Plan and Schedule" described in Appendix A of this Order and the Facility "Final CO Control Plan" described in Appendix B of this Order, have been completed and are in operation, the Facility may experience additional CO exceedances. Accordingly, until completion of the "Final CO Control Plan", Wheelabrator shall maintain and operate the Facility in a manner consistent with good air pollution control practices and normal operating procedures for minimizing emissions, in order to minimize additional CO exceedances and minimize potential impacts to air quality.
- b) Beginning October 10, 2010, Wheelabrator shall to DEQ submit quarterly progress reports regarding the Final CO Control Plan and CO Control Plan Schedule.
  - i. The Final CO Control Plan and CO Control Plan Schedule quarterly reports required by Appendix A.1.b. of this Order shall be due on January 10, April 10, July 10, and October 10 of each year and shall continue until the Final CO Control Plan and CO Control Plan is complete or until the Facility CO control upgrade has been completed, whichever is the later. Quarterly reports shall include at a minimum the status of the upgrades to the Facility.
  - ii. The quarterly reports shall each include a statement that Wheelabrator is meeting the Final CO Control Plan or is not meeting the Final CO Control Plan.
  - iii. If Wheelabrator is not meeting the Final CO Control Plan and Final CO Control Plan Schedule, then the statement shall include an explanation of why the Final CO Control Plan is not being met, and the actions taken by Wheelabrator to meet the Final CO Control Plan.
- c) By August 31, 2010, Wheelabrator shall submit to DEQ an approvable control plans to address exceedances of SO<sub>2</sub> and VE. The SO<sub>2</sub> and VE control plans shall include a compliance schedule from beginning to completion of the plan. Upon DEQ approval in writing of the SO<sub>2</sub> and VE Control Plans, the SO<sub>2</sub> and VE Control Plans shall become part of and enforceable as part of this Order. Within 60 days of DEQ approval of the SO<sub>2</sub> and VE Control Plans, Wheelabrator will implement the SO<sub>2</sub> and VE Control Plans.
- d) Upon approval by DEQ in writing, as required by Appendix A1.c of this Order, Wheelabrator shall submit to DEQ quarterly progress reports regarding the SO<sub>2</sub> and VE Control Plans.
  - i. The SO<sub>2</sub> and VE Control Plans quarterly reports required by Appendix A.1.d. of this Order shall be due on January 10, April 10, July 10, and

- October 10 of each year and shall continue until the SO<sub>2</sub> and VE Control Plans are complete or until any Facility upgrades to control SO<sub>2</sub> and VE Control have been completed, whichever is the later. Quarterly reports shall include at a minimum the status of upgrades to the Facility.
- ii. The quarterly reports shall each include a statement that Wheelabrator is meeting the SO<sub>2</sub> and VE Control Plans or is not meeting the SO<sub>2</sub> and VE Control Plans.
  - iii. If Wheelabrator is not meeting the SO<sub>2</sub> and VE Control Plans, then the statement shall include an explanation of why the SO<sub>2</sub> and VE Control Plans is not being met, and the actions taken by Wheelabrator to meet the SO<sub>2</sub> and VE Control Plans.
- e) The DEQ and Wheelabrator acknowledge that, until the SO<sub>2</sub> and VE Control Plans, to be submitted according to Appendix A.1.c. of this Order, is completed and in operation, the Facility may experience additional emissions violations of SO<sub>2</sub> and VE. Accordingly, pending completion of the Facility SO<sub>2</sub> and VE Control Plans, Wheelabrator shall maintain and operate the Facility in a manner consistent with good air pollution control practices for minimizing emissions, in order to eliminate additional violations and minimize potential impacts to air quality.

## **2. Certification of Documents and Reports**

In accordance with 9 VAC 5-20-230(A), in all documents or reports submitted to DEQ pursuant to this Order, Wheelabrator, shall by its officers, sign and certify under penalty of law that the information contained in such document or report is true, accurate, and not misleading by signing the following statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

## **3. DEQ Contact**

Unless otherwise specified in this Order, Wheelabrator shall submit all requirements of Appendix A of this Order to:

Regional Director, DEQ, Tidewater Regional Office, 5636 Southern Boulevard,  
Virginia Beach, VA 23462

## APPENDIX B FINAL CO CONTROL PLAN

The Final CO Control Plan will address the major combustion control problems that are considered to be primarily responsible for the Facility's inability to achieve consistent CO control and meet CO emission limits. The Final CO Control Plan will be implemented in a series of Tasks performed in accordance with the following schedule:

### FINAL CO CONTROL PLAN SCHEDULE

<u>Task Name</u>	<u>Completion Date</u>
Task 1 CFD Modeling	07/16/10
Task 2.1 Controls and Instrumentation-all plus first turbine/generator	12/31/2010
Task 2.2 2 <sup>nd</sup> and 3 <sup>rd</sup> turbine/generators	12/31/2011
1 <sup>st</sup> Boiler:	12/31/2010
Task 3 Over Fire Air Project	
Task 4 Grate Repairs and Modifications	
Task 5 Tramp Air Repairs	
Task 6 Air Heater Tube Repairs	
2 <sup>nd</sup> Boiler	06/30/2011
Task 3 Over Fire Air Project	
Task 4 Grate Repairs and Modifications	
Task 5 Tramp Air Repairs	
Task 6 Air Heater Tube Repairs	
3 <sup>rd</sup> Boiler	12/31/2011
Task 3 Over Fire Air Project	
Task 4 Grate Repairs and Modifications	
Task 5 Tramp Air Repairs	
Task 6 Air Heater Tube Repairs	
4 <sup>th</sup> Boiler	06/30/2012
Task 3 Over Fire Air Project	
Task 4 Grate Repairs and Modifications	
Task 5 Tramp Air Repairs	
Task 6 Air Heater Tube Repairs	

The CO Control Plan specifies a two (2) year completion schedule that provides a six (6) month contingency in the event of unforeseen delays in engineering, construction and/or equipment procurement. However, Wheelabrator has planned and expects to complete the CO Control Plan within (18) months.

The scope and associated activities for each CO Control Plan task are as follows:

#### TASK 1- COMBUSTION COMPUTATIONAL FLUID DYNAMIC (CFD) MODELING:

Computational Fluid Dynamic (CFD) flow modeling will be performed to evaluate existing baseline combustion conditions and combustion air distribution in the furnace and effectiveness of current over fire air (OFA) design. Once baseline combustion conditions are verified by the CFD model, various design changes to the OFA system will be modeled to evaluate associated combustion and CO improvements. CFD modeling results will then be used to select the appropriate final OFA design and modifications.

#### TASK 2 - CONTROLS AND INSTRUMENTATION:

Critical boiler instrumentation will be inspected and calibrated, and instrument sensing lines modified where necessary to meet Wheelabrator design criteria. Current control logic/programming for the following will be documented and evaluated: boiler/combustion control system, main steam flow control system, turbine/generator control systems and plant distributed control system. Based on the evaluation, control logic will be modified to improve control. Appropriate new instrumentation will also be installed in conjunction with control logic/programming changes to improve system monitoring. Control improvements will also be made on RDF feeder air flow dampers for each boiler. There are three (3) separate turbine/generator control systems. Control modifications will be completed on one turbine/generator set by 12/31/2010 and on the other two (2) turbine/generators by 12/31/2011.

#### TASK 3 - OVER FIRE AIR (OFA) PROJECT

Based on preliminary review the OFA systems will be redesigned and modified. The final design and scope of OFA modifications will be confirmed with completion of CFD modeling. Based on the final OFA design, engineering and construction details will be finalized and OFA modifications implemented. Boiler/combustion control logic programming changes and any new instrumentation required to integrate the new OFA system design will be performed during the OFA project implementation.

#### TASK 4 - GRATE REPAIRS AND MODIFICATIONS:

The following stoker grate repairs and modifications will be performed on each boiler to improve under fire or primary air control and distribution:

- Structural repairs to the main and cross beam carrying members that are out of alignment and warped.
- Seal repairs, scraper repairs and siftings auger/hopper modifications to prevent short circuiting of air in the under grate air distribution system.

#### TASK 5 - TRAMP AIR REDUCTION REPAIRS:

The following work will be performed to reduce excessive tramp air that contributes to poor combustion control:

- Double dump valves on fabric filters hoppers will be overhauled.
- Boiler casing and duct work will be inspected and repaired.

#### TASK 6 - AIR HEATER REPAIRS:

Air heaters will be inspected and broken/corroded tubes replaced or repaired. The air heater repairs will eliminate the short-circuiting of combustion air that is going up the stack and therefore increase the amount of combustion air available for combustion control.

## **APPENDIX C SUPPLEMENTAL ENVIRONMENTAL PROJECT**

In accordance with Va. Code § 10.1-1186.2, SPSA and Wheelabrator shall perform the SEP identified below in the manner specified in this Appendix.

1. The SEP to be performed by SPSA and Wheelabrator shall be a payment of \$45,465 to the Elizabeth River Project "Living River Restoration Trust" for the "Paradise Creek Nature Park". The "Paradise Creek Nature Park" is located on Victory Boulevard in Portsmouth, VA.

The \$45,465 shall be paid by check, certified check, money order, or cashier's check payable to:

The Living River Restoration Trust  
Post Office Box 1072  
Portsmouth, VA 23705.

2. The payment of the \$45,465 SEP funds to the Elizabeth River Project "Living River Restoration Trust" for the "Paradise Creek Nature Park" shall be completed within 30 days of the effective date of this Order.
3. SPSA or Wheelabrator shall verify its completion of the SEP in writing, either in the form of a certification from a Certified Public Accountant or a certification from a responsible SPSA or Wheelabrator official that the SEP has been completed in accordance with the terms of this Order. SPSA or Wheelabrator shall submit verification to DEQ within 60 days from the completion of the SEP.
4. If the SEP has not or cannot be completed as described in this Order, SPSA and Wheelabrator shall notify DEQ in writing no later than 30 days of discovery of the inability to complete the SEP. Such notification shall include payment of the amount as described in Paragraph D.3.a of this Order.
5. SPSA and Wheelabrator consent to reasonable access by DEQ or its staff to property or documents under the parties' control, for verifying progress or completion of the SEP.
6. Unless otherwise specified in this Order, documents to be submitted to DEQ regarding the SEP shall be sent to:

Regional Director  
Department of Environmental Quality  
Tidewater Regional Office  
5636 Southern Blvd  
Virginia Beach, VA 23462